REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, claim claims 2-4 have been cancelled, while claims 1 and 14 have been amended to include the limitations of cancelled claims 2-4. In addition, claims 5-7 have been amended such that they each depend from claim 1.

The Examiner has rejected claims 1-14 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,246,760 to Makino et al.

The Makino et al. patent discloses a subband echo cancellation method for multichannel audio teleconference and echo canceller using the same, in which Makino et al. splits the signal into subbands, downsamples these subbands, and treats the subband signals as "normal" time signals. That is, for each subband, an adaptive filter is applied that consists of an FIR filter with multiple taps. Instead of using a standard LMS algorithm, Makino et al. uses an ESP algorithm (see col. 2, line 34), which is only useful for a multiple tap algorithm or, in general, for time domain signals. To reduce the effect of correlation in the input signal, the VARIATION component of the cross-correlation is emphasized (col. 11, lines 34-37 and 43-55) by using the sample decimation and/or the ESP algorithm.

The subject invention also relates to acoustic echo and noise cancellation and attempts to solve the same problems as Makino et al. However, the approach of the subject invention is different from that of Makino et al. In particular, in the subject invention, all signals are transformed to the frequency domain using, for example, FFTs, and all operations are performed in the frequency domain. To reduce the effect of cross-correlation, the frequency domain input signals are multiplied with the inverse of the input channel's power matrix, consisting of autopower and crosspower spectra terms.

The subject invention does not user variation of the cross-correlation components. In fact, the subject invention is effective in situations where the cross-correlation does not change. Furthermore, the subject invention works for what is called a "block frequency domain" approach, where, for each frequency component, the value of the transfer function to be modeled consists of only one complex component and for a partitioned block frequency domain adaptive filter where the transfer function consists of a (preferably) small number of complex values.

There is a clear distinction between block convolution based frequency domain adaptive filters, as in the subject invention, and subband adaptive filters as used in Makino et al. An overview is given in "Frequency-Domain and Miltirate Adaptive

Filtering" by J.J. Shynk, IEEE SP Magazine, January 1992, pp. 15-37.

Applicants therefore submit that the main difference between Makino et al. and the subject invention is that Makino et al. uses a time variation component of the cross correlation, while the subject invention uses the inverse of the power matrix.

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1 and 5-14, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by _____
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On May 23, 2005

By Barnett James